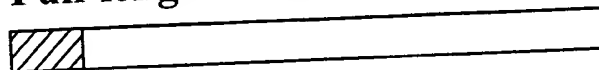


## FIG. 1

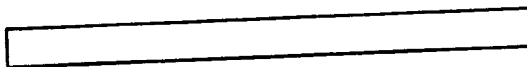
### Construct of Amb a1 cDNA - II

Full-length Amb a1 (396 codon)

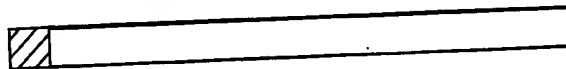


Plant Leader Sequence (36AA)

$\Delta 36$  Amb a1



ssHA $\Delta 36$  Amb a1



Virus Leader Sequence (14AA)

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## FIG. 2

### Comparison of codon usage (Plant vs. Human)

#### *HIS*

|     | Plant | Human |
|-----|-------|-------|
| CAT | 83%   | 0%    |
| CAC | 17%   | 100%  |

#### *GLN*

|     | Plant | Human |
|-----|-------|-------|
| CAA | 90%   | 30%   |
| CAG | 10%   | 70%   |

#### *ASP*

|     | Plant | Human |
|-----|-------|-------|
| GAT | 76%   | 31%   |
| GAC | 24%   | 69%   |

#### *GLU*

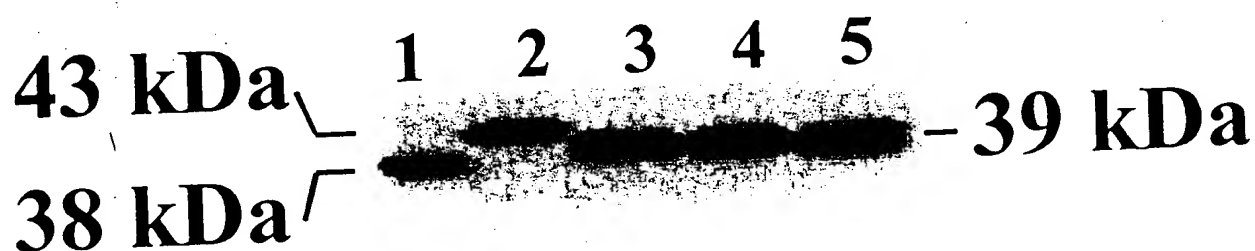
|     | Plant | Human |
|-----|-------|-------|
| GAA | 69%   | 25%   |
| GAG | 31%   | 75%   |

09/828,505 "09/828,505"

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### FIG. 3

Expression of Amb a1  
in COS-7 cell - III



1: Purified AgE

2: Amb a1/pNDKm ( x 1 )

3:  $\Delta$ 36Amb a1/pNDKm ( x 3 )

4: ssHA $\Delta$ 36Amb a1/pNDKm ( x 3 )

5: hssHA $\Delta$ 36Amb a1/pNDKm ( x 10 )

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## Induction of Antigen-specific Antibody and Cytokine *in vivo* - III

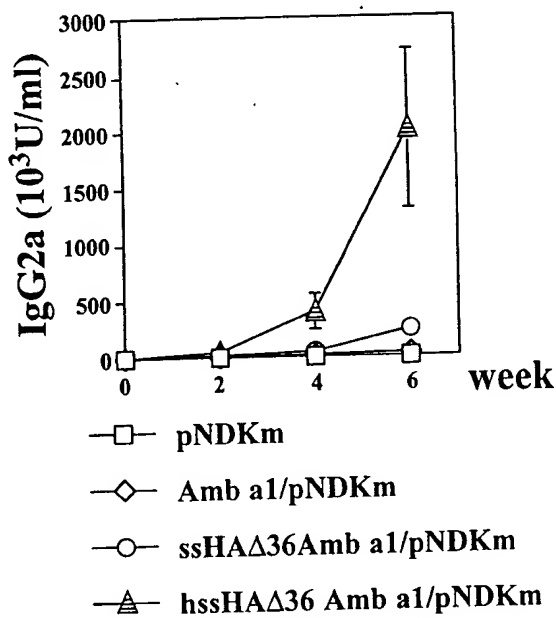


FIG. 4A

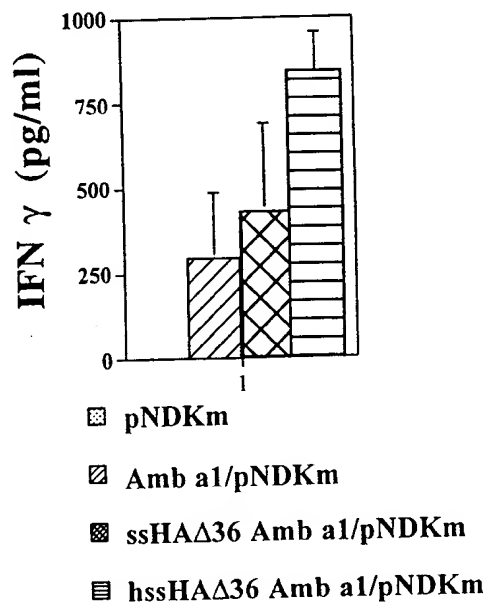


FIG. 4B

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## Induction of Antigen-specific Antibody and Cytokine *in vivo* - VI

(Co-injection of ISS-ODN with 50 $\mu$ g of hssHA $\Delta$ 36Amb a1/pNDKm)

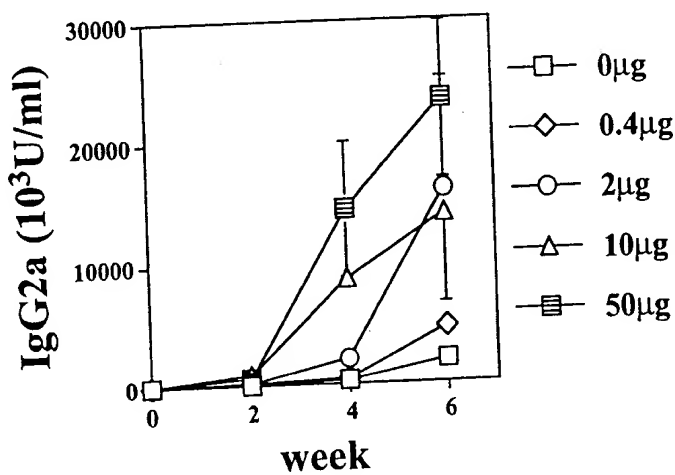


FIG. 5A

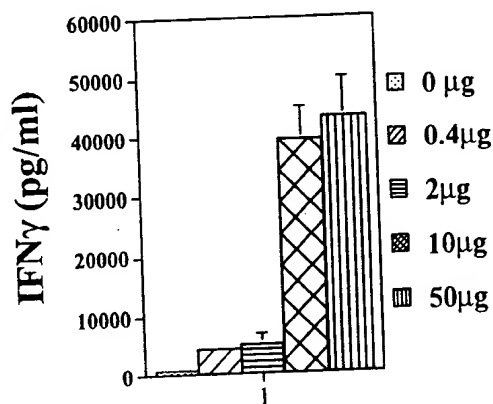


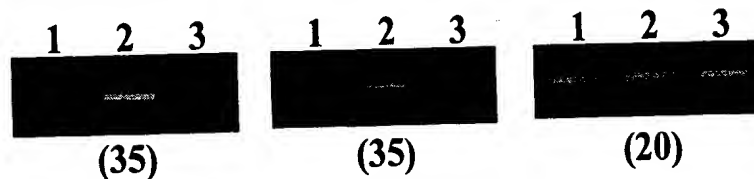
FIG. 5B

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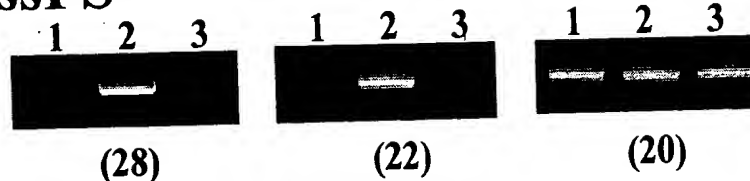
## FIG. 6

### *In vivo* Efficacy of ISS-ODN (dsPO vs. ssPS)

dsPO



ssPS



IL-6

IL-12

G3PDH

1: PBS, 2: ISS-ODN, 3: M-ODN

- Injection of ISS-ODN(i.v.)  
[200µg/mouse]
- Isolation of spleen after 2  
hr post-injection
- Isolation of mRNA
- Detection of IL-6/IL-12  
transcript by RT-PCR

# Reduction of Amb a1-specific IgE *in vivo* (week 8)

FIG. 7A

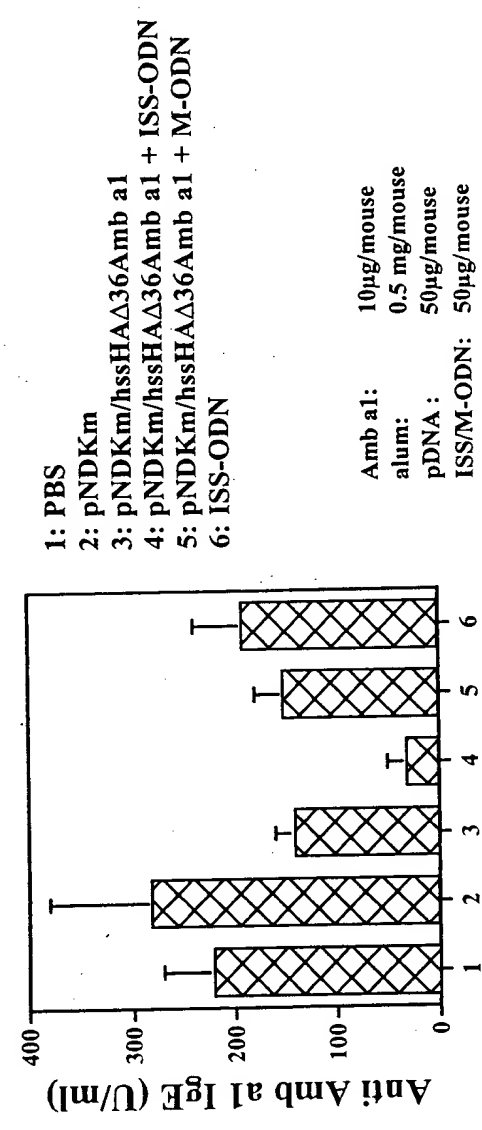


FIG. 7B

